IN THE CLAIMS

1. **(currently amended)** A data processing method for inputting data, the input data including one of a first data and a third data, the first data formed by encoding a signal with a first encoding system, and the third data formed by multiplexing second data formed by encoding the signal with a second encoding system and said first data, the data processing method outputting fourth data, the data processing method comprising:

detecting Tandem Free Operation (TFO) information included in the first data or the third data;

providing a first mode for inputting the first data, encoding the input data with the second encoding system and outputting the encoded input data as the fourth data;

providing a second mode for inputting the third data, isolating the second data, performing a noise alleviation process on the second data, and outputting the second data as the fourth data; and

providing a third mode for inputting the third data, replacing a part of the third data where the second data is multiplexed with a particular data pattern, encoding the input data including the replaced part with the second encoding system and outputting the encoded data as the fourth data,

wherein the first mode, the second mode, and the third mode operate based on the detecting step.

2. (original) The data processing method of claim 1, further including the steps of:

determining if the input data is the first data or the third data; and

determining whether to process the input data in the second mode or the third mode when the input data is the third data.

3. **(currently amended)** The data processing method of claim 2, wherein the ~~first~~ second encoding system includes PCM and the signal is an analog signal.

4. **(currently amended)** A data processing method for inputting data, the input data including one of a first data and a third data, the first data formed by encoding a signal with a first encoding system, and the third data formed by multiplexing second data formed by encoding the signal with a second encoding system and said first data, the data processing method outputting fourth data incorporating at least a part of a respective one of the first and third data, the data processing method comprising:

detecting Tandem Free Operation (TFO) information included in the first data or the third data;

detecting if the input data is the first data or the third data; and

determining whether to transition from a first operation mode to a second operation mode for coding the input data, wherein

when an operation mode is to be switched to said first operation mode or said second operation mode, a signal for resetting a data processor for decoding the data output with said second encoding system is added, before such switching operation, to said fourth data and is then outputted, ~~and~~

the first operation mode and the second operation mode operate based on the TFO information detecting,

the first operation mode includes, when the input data is the third data, replacing a part of the third data where the second data is multiplexed with a particular data pattern, encoding the input data including the replaced part with the second encoding system, and outputting the encoded data as the fourth data, and

the second operation mode includes, when the input data is the third data, isolating the second data, performing a noise alleviation process on the second data, and outputting the second data as the fourth data.

5. **(currently amended)** A data transmission system communicating between a first terminal transmitting second data formed by a second encoding system, and a second terminal for receiving information transmitted from the first terminal comprising[[;]]:

a first data terminal for inputting said second data and outputting first data encoded with a first encoding system in a first mode and third data multiplexing said second data and said first data in a second mode; and

a second data terminal for detecting Tandem Free Operation (TFO) information included said first or third data output, inputting said first or third data output, and outputting to the second terminal, in the first mode, fifth data formed by encoding said first data input with a second encoding system and also performing a noise alleviation process on and outputting, in the second mode, said second data isolated from said third data, wherein

when said second data terminal is in said first mode and said third data is input, a part of said third data where said second data is multiplexed is replaced with ~~the~~ a particular data pattern and said particular data pattern is outputted through the encoding thereof with said second encoding system, and

the first mode and the second mode operate in the second data terminal based on the TFO information detecting.

6. **(currently amended)** A data transmission system communicating between a first terminal transmitting second data formed by a second encoding system, and a second terminal for receiving information transmitted from the first terminal comprising[[;]]:

a first data terminal for inputting said second data and outputting first data encoded with a first encoding system in a first mode, and also outputting third data multiplexing said second data and said first data in a second mode;

a second data terminal for detecting Tandem Free Operation (TFO) information included said first or third data output, inputting said first or third data, and outputting to said second terminal, in a first mode, fourth data formed by encoding said first data with a second encoding system and also performing a noise alleviation process on and outputting said second data isolated from said third data in a second mode, wherein

when an operation mode is to be switched to said first mode or said second mode, the data for resetting a data processor to decode the data output with said second encoding system is added to said fourth data and then output before said mode switching operation, ~~and~~

the first mode and the second mode operate in the second data terminal based on the TFO information detecting, and

the first mode includes, when the input data is the third data, replacing a part of the third data where the second data is multiplexed with a particular data pattern, encoding the input data including the replaced part with the second encoding system, and outputting the encoded data as the fourth data.

7. **(currently amended)** A data processing apparatus for inputting first data formed by encoding an analog signal with a first encoding system or third data multiplexing second data formed by encoding said analog signal with a second encoding system and said first data and outputting fourth data encoded with said second encoding system, comprising[[;]]:

a first mode and a second mode;

a detection section for detecting Tandem Free Operation (TFO) information included in said first data or said third data;

a data input section for outputting whether said input data is said third data or not to an input data determining section, isolating said second data from said third data inputted when said input data is third data in a second mode, performing a noise alleviation process on said isolated second data, and then outputting said isolated second data to an output switching section; and

a signal processing section for inputting said input data and outputting said input data to an encoding section; wherein

said output switching section outputs an output of said signal processing section in said first mode and outputs an output of said data input section in said second mode,

said signal processing section converts, when said third data is inputted in said first mode, a part of said third data where said second data is multiplexed to ~~the~~ a particular data pattern and outputs said particular data pattern to said encoding section, and

said first mode and said second mode operate based on the TFO information detecting.

8. **(currently amended)** A data processing apparatus for inputting first data formed by encoding analog signal with a first encoding system or third data multiplexing second data formed by encoding said analog signal with a second encoding system and said first data and outputting fourth data encoded with said second encoding system, comprising[[;]]

a first mode and a second mode;

a detection section for detecting Tandem Free Operation (TFO) information included in said first data or said third data;

a data input section for outputting whether said input data is said third data or not to an input data determining section, isolating said second data from said third data inputted when said input data is the third data in the second mode, performing a noise alleviation

process on said isolated second data, and outputting said isolated second data to an output switching section; and

a signal processing section for inputting said data inputted and outputting said input data to an encoding section; wherein

said output switching section outputs an output of said signal processing section in said first mode and outputs an output of said data input section in said second mode,

said encoding section adds, when operation mode is to be switched to said first mode or second mode, the data for resetting a data processing apparatus for decoding the data outputted in said second encoding system to said fourth data and then outputs these data before said mode switching operation, ~~and~~

said first mode and said second mode operate based on the TFO information detecting, and

the first mode includes, when the input data is the third data, replacing a part of the third data where the second data is multiplexed with a particular data pattern, encoding the input data including the replaced part with the second encoding system, and outputting the encoded data as the fourth data.

9. (original) The data processing apparatus according to claim 8, wherein said input data determining section determines that said third data is inputted by detecting the synchronization bit of said multiplexed data.

10. (original) The data processing apparatus according to claim 8, wherein said input data determining section determines that said third data is inputted by detecting the signal to be transmitted before said third data is transmitted.

11. (original) The data processing apparatus according to claims 6, wherein the input starting position of said third data determined as input is obtained from the signal to be transmitted before said third data is transmitted.